Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Amendment of Parts 1, 21, 73, 74, and	)	WT Docket No. 03-66
101 of the Commission's Rules to Facilitate	)	RM-11614
the Provision of Fixed and Mobile	)	
Broadband Access, Educational and Other	)	
Advanced Services in the 2150-2162	)	
and 2500-2690 MHz Bands	)	

REPLY COMMENTS OF GLOBALSTAR, INC.

Globalstar, Inc. ("Globalstar") hereby replies to comments on the Federal Communications Commission's ("Commission's") Fourth Further Notice of Proposed Rulemaking in the above-captioned proceeding.[1] In its comments, the Wireless Communications Association International, Inc. ("WCA") once again fails to demonstrate that its proposed relaxation of the out-of-band emission ("OOBE") limits at 2.5 GHz will not result in substantial harmful interference to mobile satellite service ("MSS") operations in the adjacent Big LEO band.[2] Until WCA or other proponents of this rule change make this technical showing, the Commission should give no further consideration to WCA's proposal. If, however, the Commission ultimately adopts these new OOBE limits at 2.5 GHz despite the absence of technical support, it should apply the same relaxed OOBE limits to ancillary terrestrial component ("ATC") systems operating in Globalstar's Big LEO spectrum at 2483.5-2495 MHz.

---

1 *Amendment of Parts 1 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 MHz Bands*, WT Docket No. 03-66, Fourth Further Notice of Proposed Rulemaking, FCC 11-81 (rel. May 27, 2011) ("*FNPRM"*).

2 *See* Comments of the Wireless Communications Association International, Inc., WT Docket No. 03-66 (July 7, 2011) ("WCA 2011 Comments").

There is no valid rationale for imposing more stringent OOBE limits on ATC operations below 2495 MHz than those applied to terrestrial operations at 2.5 GHz.

I. WCA HAS FAILED TO DEMONSTRATE THAT THE PROPOSED RULE CHANGE IS IN THE PUBLIC INTEREST

In its December 2010 Opposition to WCA's October 2010 petition for rulemaking, Globalstar provided a technical analysis showing that WCA's proposed OOBE limits for terrestrial mobile devices in the 2.5 GHz band will likely lead to substantial, harmful interference to Globalstar's MSS operations, including to critical services to public safety users and consumers in rural and remote areas of the United States.[3] In areas affected by interference from 2.5 GHz operations – including those where MSS may be the only option for mobile communications – MSS customers expecting reliable service may be unable to use their terminals in conjunction with Globalstar's second-generation network.[4] (Globalstar attached this Opposition to its July 7, 2011 comments in this proceeding.)

More than six months after Globalstar's Opposition, WCA and other proponents of this rule change have yet to submit a detailed engineering analysis that responds to Globalstar's

---

[3] Opposition of Globalstar, Inc., RM-11614, at 4-8, Technical Appendix (Dec. 6, 2010) ("Opposition"); Comments of Globalstar, Inc., at 4-5 and Attachment (July 7, 2011).

[4] Globalstar today uses its global non-geostationary MSS constellation to provide affordable, high-quality mobile satellite voice and data services to over 400,000 customers in 120 countries. In October 2010, Globalstar launched the first six satellites of its second-generation MSS constellation, and on July 13, 2011, it successfully launched six additional second-generation satellites. *See* Globalstar Press Release, *Globalstar Announces Successful Second Launch of Six New Satellites* (July 14, 2011), *available at*: <http://www.globalstar.com/en/index.php?cid=7010&pressId=681>). Globalstar plans to complete the deployment of its second-generation constellation by the end of 2011, with two more launches of six satellites each. Globalstar expects that it will become the first global LEO MSS voice and data company to deploy a state-of-the-art, second-generation MSS system. Its new second-generation MSS system is expected to support reliable voice, two-way data, and messaging services well into the next decade. During this time, Globalstar's core mission will remain the provision of MSS connectivity to consumers and public safety users in rural and remote areas of the United States and globally.

technical showing. The Commission has already recognized the need for additional technical information in this proceeding, asking in the *FNPRM* for "detailed engineering analyses on the potential for, and likelihood that, the proposed rule changes will result in harmful interference into MSS . . . operations below 2495 MHz," as well as "engineering analyses related to the potential for interference, in which the key assumptions underlying the analysis are identified, and accompanied by an explanation of why these assumptions are appropriate."[5] Despite the Commission's explicit request, WCA simply reiterates its conclusory dismissals of this interference threat,[6] while other proponents provide no technical support at all.[7] Globalstar remains the only party to provide a formal technical analysis on these interference issues. Accordingly, WCA and other proponents have failed to demonstrate that the proposed relaxation of OOBE limits at 2.5 GHz is in the public interest.

The need for detailed technical analysis from WCA and other proponents is heightened by the fact that little more than three years ago, WCA and its allies expressed a dramatically different view on what OOBE limits are required to prevent interference between operators in the adjacent 2.5 GHz and Big LEO bands. Specifically, in response to Globalstar's 2006 request for expanded ATC authority, WCA and other 2.5 GHz interests argued that in order to protect

---

5 *FNPRM* ¶ 15.

6 WCA 2011 Comments at 5-8. In its perfunctory technical discussion, WCA states that while terrestrial mobile devices operate at full power in cell edge regions, interference to MSS in those areas is unlikely because those devices' transmissions are typically confined to the narrowest possible bandwidth. *Id*. at 7. This interference threat, however, is not limited to the effects of single terrestrial users. The composite OOBE from *multiple* terrestrial users at the cell edge will frequently cause a loss of service for Globalstar's MSS customers in those areas, where MSS often constitutes the only means of mobile communication.

7 *See, e.g*., Comments of Alcatel-Lucent, WT Docket No. 03-66 (July 7, 2011); Comments of Catholic Television Network and National EBS Association, WT Docket No. 03-66 (July 7, 2011); Comments of Clearwire Corporation, WT Docket No. 03-66 (July 7, 2011); Comments of Nokia Siemens Networks US LLC and Nokia Inc., WT Docket No. 03-66 (July 7, 2011).

Broadband Radio Service ("BRS") licensees from interference from ATC systems operating in the Big LEO band, the Commission had to subject those ATC operations to the same OOBE limits applicable to BRS licensees at 2.5 GHz.[8] The Commission took this step in 2008 without opposition from Globalstar,[9] and these OOBE limits are still in place today in both bands.[10] In the instant proceeding, however, WCA and other commenters reverse field and claim that these OOBE limits are *not* necessary to prevent interference to adjacent-band services below 2495 MHz, including MSS operations that are even more vulnerable to OOBE interference than terrestrial facilities. WCA must provide substantial technical detail to explain why inter-band OOBE interference was inevitable in 2008 but is allegedly highly unlikely in the current spectrum environment.[11]

---

[8] *See, e.g.*, Reply Comments of the Wireless Communications Association International, Inc., IB Docket No. 07-253, at 3 (Jan. 3, 2008). In addition to these OOBE limits, WCA and other parties also claimed that a three megahertz guard band was necessary to prevent interference to BRS systems. *See* Comments of the Wireless Communications Association International, Inc., IB Docket No. 07-253, at 5-7 (Dec. 19, 2007). The Commission disagreed and extended Globalstar's ATC authority up to 2495 MHz, leaving a one megahertz guard band between the Big LEO MSS ATC and 2.5 GHz bands. *Spectrum and Service Rules for Ancillary Terrestrial Components in the 1.6/2.4 GHz Big LEO Bands; Globalstar Licensee LLC, Authority to Implement an Ancillary Terrestrial Component*, Report and Order and Order Proposing Modification, 23 FCC Rcd 7210, ¶ 30 (2008) ("*2008 Globalstar ATC Order*").

[9] In seeking expanded ATC authority in the Big LEO band, Globalstar recognized the need to demonstrate that ATC operations in its band would not cause interference to BRS operations at 2.5 GHz. Accordingly, unlike WCA in the instant proceeding, Globalstar submitted an extensive engineering analysis in support of its request. *See* Comments of Globalstar, Inc. IB Docket No. 07-253, at 24-30, Technical Appendix (Dec. 19, 2007).

[10] *See 2008 Globalstar ATC Order* ¶¶ 35-36.

[11] In support of its proposal, WCA has cited the absence of interference complaints from Globalstar related to terrestrial operations at 2.5 GHz. Reply Comments of the Wireless Communications Association International, Inc., RM-11614, at 7-8 (Dec. 16, 2010) ("WCA 2010 Reply Comments"). This lack of prior interference, however, is irrelevant to the Commission's analysis of the proposed rule change. Because of a technical problem with its first-generation satellites, Globalstar has since 2007 provided only a limited volume of two-way services, which are the services that can be degraded by 2.5 GHz operators' OOBE. Globalstar

The Commission should also require WCA to submit a detailed engineering analysis to substantiate its claim that it would be extremely difficult if not impossible to design smartphones and other next-generation mobile devices using 20 MHz or wider channels that are able to comply either with (i) the existing OOBE limits at 2.5 GHz or (ii) a revised standard that retains the existing OOBE limit at the 2.5 GHz band edge.[12] In its comments, equipment manufacturer IPWireless presents record evidence contradicting WCA's claim, stating that in fact "it is possible to economically produce a small form factor device capable of operating with a 20 MHz channel bandwidth that fully meets the Commission's current [OOBE] specifications for the EBS/BRS bands."[13] IPWireless provides information about one of its own compliant devices at 2.5 GHz, and further indicates that "the RF components required to meet the current specifications in the 2600MHz band can be shown to take up minimal foot-print thereby being a viable solution in a range of small mobile form factors."[14] Rather than take it on faith that relaxed OOBE limits are necessary to realize the benefits of wider channel bandwidths, the Commission should require WCA and its allies to substantiate this claim with technical evidence.

---

has primarily provided one-way, simplex service over its first-generation MSS constellation. These one-way uplink transmissions at 1.6 GHz are unaffected by BRS operators' OOBE.

12 *See* WCA 2011 Comments at 4-5; WCA 2010 Reply Comments at 10-11. Globalstar's primary concern in this proceeding is the interference that OOBE from 2.5 GHz operators can cause to Globalstar's MSS operations below 2495 MHz. To prevent such interference, it is critical that the Commission maintain the current limits on OOBE into the spectrum below 2495 MHz. Globalstar takes no position, however, on 2.5 GHz operators' OOBE into other BRS and Educational Broadband Service channels above 2500 MHz.

13 Comments of IPWireless, Inc., RM-11614, at 2-3 (July 7, 2011).

14 *Id*. at 4. In providing MSS, Globalstar itself has used a combination of filters and reduced power transmissions to protect adjacent-band operators, and terrestrial operators at 2.5 GHz should be able to utilize similar techniques to protect adjacent-band operators below 2495 MHz.

Instead of providing detailed engineering analysis on these key issues, WCA relies heavily on the notion that the proposed rule change is essential to fulfilling the goals of the National Broadband Plan.[15] Globalstar joins WCA in its support for the goals of the National Broadband Plan, and Globalstar has submitted its own detailed spectrum proposal to the Commission to further these objectives.[16] WCA overlooks the fact, however, that both the National Broadband Plan and the Commission have also acknowledged the significant public interest benefits of satellite services.[17] Until WCA can demonstrate that its proposed OOBE limits will not jeopardize the crucial public interest benefits of MSS, the Commission should not consider adopting WCA's proposed rule change.

II. IF THE COMMISSION ULTIMATELY ADOPTS WCA'S PROPOSED OOBE LIMITS, IT SHOULD APPLY THE SAME LIMITS TO ATC OPERATIONS IN THE BIG LEO BAND

As noted above, the Commission in 2008 extended its OOBE limits at 2.5 GHz to Globalstar's authorized terrestrial use spectrum at 2483.5-2495 MHz.[18] If the Commission now decides to relax the OOBE limits at 2.5 GHz despite the scarcity of technical support for that change, it should continue its parallel treatment of these bands and apply the same relaxed

---

15 WCA 2011 Comments at 2-3, 8.

16 *See* Comments of Globalstar, Inc., ET Docket No. 10-142, at 9-20 (Sep. 15, 2010) (proposing a more flexible regulatory framework for terrestrial use of the MSS bands).

17 The National Broadband Plan stated that "[s]atellite has the advantage of being both ubiquitous and having a geographically independent cost structure, making it particularly well suited to serve high-cost, low-density areas." *See* FCC, "Connecting America: The National Broadband Plan," at 137 (rel. March 16, 2010), *available at*: <http://download.broadband.gov/plan/national-broadband-plan.pdf> ("National Broadband Plan"). Given the nearly ubiquitous, cost-effective nature of MSS, the Commission has recognized that MSS offers "an excellent technology for delivering basic and advanced telecommunication services to unserved, rural, insular or economically isolated areas." *Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band,* Report and Order, 15 FCC Rcd 16127, ¶ 32 (2000).

18 *See 2008 Globalstar ATC Order* ¶¶ 35-36.

OOBE limits to ATC transmissions up to 2495 MHz. In this scenario, there would be no legitimate basis for maintaining more stringent OOBE limits in Globalstar's ATC spectrum. The public interest in promoting mobile broadband development in the Big LEO band is just as strong as the interest in encouraging such development at 2.5 GHz. Disparate Commission treatment of similarly situated terrestrial operations in these respective bands would be inequitable, and would be unlikely to withstand judicial review.[19]

III. CONCLUSION

WCA has failed to provide technical analysis demonstrating that relaxed OOBE limits for terrestrial mobile operations at 2.5 GHz will not result in substantial harmful interference to Globalstar's MSS operations below 2495 MHz. If the Commission nonetheless decides to adopt WCA's proposed rule change, it should apply the same OOBE limits to ATC operations at 2483.5-2495 MHz.

Respectfully submitted,

/s/ L. Barbee Ponder IV
L. Barbee Ponder IV
General Counsel & Vice President
Regulatory Affairs
Globalstar, Inc.
300 Holiday Square Blvd
Covington, LA 70433

July 22, 2011

[19] Absent sufficient justification, the Commission is obligated to provide similar regulatory treatment to similarly-situated entities under its jurisdiction. The Commission abuses its discretion if it fails to "provide adequate explanation before it treats similarly situated parties differently." *Petroleum Commc'ns, Inc. v. FCC*, 22 F.3d 1164, 1172 (D.C. Cir. 1994). *See also Burlington N. & Santa Fe Ry. Co. v. Surface Transp. Bd.*, 403 F.3d 771, 777 (D.C. Cir. 2005); *Chadmoore Communications, Inc. v. FCC*, 113 F.3d 235, 242 (D.C. Cir. 1997); *Adams Telecom, Inc. v. FCC*, 38 F.3d 576, 581 (D.C. Cir. 1994); *McElroy Electronics v. FCC*, 990 F.2d 1351, 1365 (D.C. Cir. 1993); *Melody Music, Inc. v. FCC*, 345 F.2d 730, 732-33 (D.C. Cir. 1965).